

Pharyngeal Cervical Neurinoma: dysphonia and dysphagia

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INTRODUCTION

More advanced neuromas originate from the cranial and spinal nerve roots, and they manifest symptoms as slow and progressive spine compression, and partial or total surgical removal is indicated¹. Cranial pairs V, VII, IX, X, XI and XII act directly on speech production and swallowing^{2,3} and, when involved, may interfere in the patient's life quality, especially the social, nutritional and pulmonary aspects. The more these nerves are involved, the higher is the risk of developing aspiration pneumonia⁴, and the multidisciplinary care is fundamental in order to treat these patients and minimize resection sequelae^{5,6}.

Our goal was to check the results of speech, mastication and swallowing rehabilita-

tion in a case of neck and pharyngeal neuroma by means of exams: laryngeal, swallowing video fluoroscopy, and electromyography of masticatory muscles.

CASE PRESENTATION

A 38 year old patient, that after suffering a resection of a neck and pharyngeal neuroma that involved the neck region and the carotid artery, complained of dysphonia, dysphagia and chewing difficulties.

In our evaluation we noticed tongue atrophy and reduction of labial mobility on the right side, associated with reduced tongue elevation. The videolaryngoscopy showed paralysis of the hemilarynx and also of the right vocal fold in total abduction, reduction in soft palate muscle contraction on the right side and a blowy voice pattern. After a type I thyroplasty, she presented with a posterior midline triangular vocal fold slit with partial vocal improvement.

During swallowing videofluoroscopy we noticed for all types of food material: premature food escape; food residues in the oral cavity; difficulty in transporting the food from the oral phase to the pharynx and food stasis in the piriform fossae and piriform recesses.

Electromyography showed a reduction in temporal and masseter muscle activity on the right side.

Speech therapy rehabilitation happened in 24 sessions, with isotonic and isometric myofunctional exercises of the tongue and masticatory muscles (masseter and temporalis) and the utterance of vowel /i/ sustained with hands in hook-shape associated with neck flexion to the right.

DISCUSSION

Table 1 depicts the pre and post rehabilitation findings. After speech thera-

py, the new tests showed: improvements in tongue strength, tonus and mobility; no premature food escape; increase in pharynx constriction muscles contraction, with residue reduction in the piriform fossae; increase in right side temporal and masseter muscles activity and unaltered voice quality.

It is important to highlight that the exercises selected for the speech therapy rehabilitation in this patient were those that, besides indicated, presented the best results during the therapeutic tests.

The vocal exercise carried out was then selected because it was the only one that caused a mild reduction in the glottal slit, and also a mild increase in voice blowing pattern during its performance. Along speech therapy, other vocal exercises were selected, associated or not to neck postural maneuvers, but also without good results as far as vocal quality is concerned.

FINAL REMARKS

There was a significant improvement in mastication, swallowing, tongue muscle activity and masticatory muscles after speech therapy rehabilitation, although voice quality remained unaltered.

REFERENCES

1. Omamura S, Nakajima Y, Kobayashi S, Ono S, Fujita K. Oral manifestations and differential diagnosis of isolated hypoglossal nerve palsy: report of two cases. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 1997;84(6):635-40.
2. Robbins SL, Cotran RS, Kumar VR: *Patologia Estrutural e Funcional*. 4aed. Rio de Janeiro: Guanabara Koogan; 1991. p. 1168-75.
3. Sobotta J. Cabeça, pescoço e extremidade superior. In: *Atlas de Anatomia Humana*. 21a ed. Rio de Janeiro: Guanabara Koogan; 2000. p. 107-12.
4. Sakao T, Noguchi S, Murakami N, Uchino S. Neurilemonia of the neck: a report of 35 cases. *Nippon Geka Gakkai Zasshi* 1990;91(3):407-10.
5. Gonçalves MIR. Alterações estruturais mínimas da cobertura das pregas vocais: fatores que interferem no diagnóstico (Tese). São Paulo: Escola Paulista de Medicina; 1994.
6. Maffei C, Gonçalves MIR, Biase N. Avaliação laringológica e perceptivo-auditiva vocal nas fases pré e pós-aplicação da técnica de vibração sonora de pregas vocais na leucoplasia plana. *Fonoatual* 2004;28:53-4.

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